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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,955	08/04/2003	Louis J. Bintz	14414-011001	5172
26191	7590	08/08/2006		
FISH & RICHARDSON P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER VARGOT, MATHIEU D	
			ART UNIT 1732	PAPER NUMBER

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/633,955	BINTZ ET AL.	
	Examiner	Art Unit	
	Mathieu D. Vargot	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 June 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-27 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 15-20 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nutt (col. 4, lines 15-29; col. 15, line 48 through col. 16, line 10) in view of Dorn et al (see 2 and 9-15 in Fig. 3; column 3, lines 25-37 and 57-65) and Zhang et al (see Figs. 2A-2F; col. 4, line 66 through col. 5, line 35).

Nutt discloses forming a waveguide whose core is formed on a substrate followed by poling to lock the chromophores in place and also teaches that the polymers used would be crosslinkable. Essentially, the primary references lack a showing of poling and crosslinking the first —core—film and then forming a second film in close proximity to the first and then poling and crosslinking the second one. As noted in the previous actions, Dorn et al discloses these general steps in forming a waveguide and one of ordinary skill would have obviously used them in the process of the primary reference dependent on the final use desired for the waveguide. While it is noted that the optical switch of Dorn et al does not have a core as set forth in the instant claims, it is submitted that the process of forming additional layers and poling and crosslinking them would have been obvious to add additional cladding and waveguide layers. To this end, Zhang et al has been additionally applied to show a waveguide similar to that of Nutt in which cladding, core and cladding layers are formed followed by a poling of these. It is nothing but conventional in this art to make multilayered waveguides so that the final

element would have the desired refractive index profile and physical properties designed for its ultimate use.

2. Claims 4-14 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nutt (col. 4, lines 15-29; col. 15, line 48 through col. 16, line 10) in view of Dorn et al (see 2 and 9-15 in Fig. 3; column 3, lines 25-37 and 57-65) and Zhang et al (see Figs. 2A-2F; col. 4, line 66 through col. 5, line 35) and further in view of Oh et al in Appl. Phys. Lett. 2000, 76(24):3525-3527.

Nutt, Dorn et al and Zhang et al are applied for reasons noted in paragraph 1, *supra*, and Oh et al is applied for reasons of record as set forth in the previous action.

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant's comments directed to Dorn et al as the primary reference have been noted and are persuasive. However, an update of the search has revealed a number of references directed to poling electrooptic layers of the more conventional waveguides being described in the instant specification and claims. Dorn et al is submitted to still be applicable for what it teaches, namely the poling and crosslinking of subsequent layers to achieve a desired refractive index profile. Clearly, this would be advantageous in achieving a desired refractive index profile for the waveguide.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mathieu D. Vargot whose telephone number is 571 272-1211. The examiner can normally be reached on Mon-Fri from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on 571 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Vargot
August 4, 2006

M. Vargot
Mathieu D. Vargot
Primary Examiner
Art Unit 1732

8/4/06